

Docket 87-268

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FEB 14 1994

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

**ADVISORY COMMITTEE ON
ADVANCED TELEVISION SERVICE
IMPLEMENTATION SUBCOMMITTEE**

Minutes of the Twentieth Meeting

1. The twentieth meeting of the Implementation Subcommittee convened at 10:15 a.m. on November 24, 1992, in the Commission Meeting Room at the Federal Communications Commission, 1919 M Street, N.W., Washington, D.C., and adjourned at 10:50 a.m.
2. The following Subcommittee members were present:

James Tietjen, Co-Chair
George Vradenburg III, Co-Chair
Brenda Fox, Vice Chair
Valerie Schulte representing Henry Baumann, Vice Chair
and representing Charles Jackson, Chair, Working Party 1, Policy & Regulation
S. Merrill Weiss, Vice Chair, Working Party 2, Transition Scenarios
3. The designated federal employee attending was Gina Harrison, Senior Attorney, FCC Mass Media Bureau. Richard Wiley, Chair of the Advisory Committee on Advanced Television Service, was also in attendance.
4. The minutes of the nineteenth meeting were adopted.
5. Chairman Wiley briefly addressed the members, and expressed appreciation for the efforts of the Implementation Subcommittee in working with the Advisory Committee towards achieving the goal of bringing ATV service to the United States.
6. Ms. Schulte reported that Working Party 1 concluded its work and drafted a Final Report, which was submitted to Systems Subcommittee Working Party 4, System Standard. Working Party 1 thus has no plans to hold another meeting.
7. Mr. Weiss summarized the activities of Working Party 2. (See the attached documents.) He stated that, although most of the Working Party's Final Report is complete, the document is not entirely finished. Mr. Weiss indicated that some sections of the Final Report depend on the completion of other documents and that the Final Report should be finished by mid-December. Chairman Vradenburg asked that the Final Report, in its current stage of completion, be distributed to the members of the Implementation Subcommittee.
8. Mr. Weiss stated that Working Party 2 continues work on a comparative analysis of system implementation, and is also conducting a survey of professional equipment manufacturers. Mr. Weiss said that although a similar (but more general) survey conducted early in the Working Party's efforts proved inconclusive, the current survey is directed at specific manufacturers about the specific equipment that they produce. Mr. Weiss added that the results of this survey may not be available in time to

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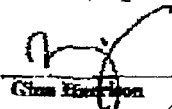
be included in Working Party 2's Final Report. Mr. Weiss noted that as a result, the assumptions reflected in the PERT and GANTT charts in the Final Report will not have the extra verification which the professional equipment manufacturer survey would have provided. In response to a question, Chairman Vradenburg suggested that, while the Final Report should not be delayed beyond December 18, 1992, the Final Report could be amended after submission to include the survey analysis if the information becomes available in a timely fashion. To assist in generating prompt responses to the survey, Chairmen Tietjen and Vradenburg offered to contact the manufacturers to urge their participation.

9. Mr. Weiss stated that Working Party continues work on producing a document dealing with consumer electronics. He noted that this report is based on a survey of consumer electronics manufacturers conducted in spring 1992. Mr. Weiss explained that the this report is not quite completed, and so will not be detailed in the Final Report. Therefore, the report on consumer electronics will be referenced in the Working Party 2 Final Report, but will be released separately. Additionally, Mr. Weiss reported that Working Party 2 continues to study distributed transmission as a potentially viable option for broadcasters. Mr. Weiss identified adjacent channel interference as a major impediment to a distributed transmission approach. He stressed the importance of this research effort, and noted that the Commission in its October 16, 1992, Memorandum Opinion and Order/Third Report and Order/Third Further Notice of Proposed Rule Making expressed its interest in receiving the results of the distributed transmission report.
10. Jeffrey Krauss, a consultant for General Instrument noted that Working Party 2 has only one more meeting planned, and asked whether this would allow enough time for completion of all of the work described by Mr. Weiss. Mr. Weiss responded that the last meeting, set for December 16 and 17, is scheduled to run two days until completion, with the goal of finishing and issuing all remaining reports. Additionally, Working Party 2 will continue to meet by conference call every Wednesday through December 9, 1992. In response to a question from Mr. Krauss, Mr. Weiss indicated that copies of the comparative analysis report would be made available to system proponents and that those who participated in the drafting of Working Party 2's Final Report would receive copies of that document. Mr. Weiss said that comments received in response to the comparative analysis report would be reflected in the Working Party 2 Final Report.
11. Mr. Weiss discussed the future of the local area groups, indicating that coordination mechanisms were under review to ensure the continuation of that process after the Advisory Committee concludes its work. (See attached material.) Chairman Vradenburg asked about what scenarios for coordinating the local area groups were under consideration and Mr. Weiss suggested several possibilities, including the National Association of Broadcasters and the Broadcaster Caucus. Ms. Harrison asked that the names of the members or "key persons" be released to help respond to implementation inquiries when appropriate. Mr. Weiss responded that in each of the participating markets, there is one broadcaster, usually a

station engineer, who acts as a facilitator, and that the Fed of facilitators would be made available.

12. Chairman Vradenburg said that the Implementation Subcommittee will submit a brief Final Report to the Advisory Committee and at that time, the work of the Implementation Subcommittee will be finished. The Subcommittee will be on call if further work becomes necessary.
13. Chairman Vradenburg closed the final meeting of the Implementation Subcommittee at 10:30 a.m.

Submitted:


Glen Harrison

Approved:


James L. Thayer


George Vradenburg III

ATV Advisory Committee

MEETING: Implementation Subcommittee - November 24, 1992

ATTENDEES

<u>Name</u>	<u>Representing</u>	<u>Phone Number</u>
Robert Graves	ATT	(908) 721-5025
DAVID L. HANNA	CONSULTANT/GTE TELCO	817-656-1933
Kelly Williams	NAB	202-429-5344
DON WAUTER	MOTOROLA	202-371-6947
CHRIS RAY	WBKQ	202-713-4141
Bill Loughrey	SA	404-903-4829
Jeff Krauss	CONSULTANT/G.I.	301-309-3703
Robert Hopkins	ATSC	202-828-3130
Jayne Reed	Hughes Aircraft	703-284-4212
Howard Fields	TV Broadcast	703-521-4187
PAUL MISENER	W.R.F.	202-828-7506
Donutfield	USMTR	202-973-2878
John Baron	NBC	212-664-7557
JOE WATTS	ATC	703-734-3852

Report to Implementation Subcommittee
from Working Party 2 on Transition Scenarios

November 24, 1992

- 1. Final Report of IS/WP-2**
- 2. Comparative Analysis of System Implementation**
- 3. Survey of Professional Equipment Manufacturers**
- 4. Survey of Consumer Electronics Manufacturers**
- 5. Report on Distributed Transmission**
- 6. Capital Resources Availability**
- 7. Update on Local Area Groups**
- 8. Schedule of Remaining IS/WP-2 Activities**

Final Report of IS/WP-2

- **Final Report delayed**
 - **Many elements coming together at end of process**
 - **Difficulty obtaining all inputs**
 - **Time demands on participants**
 - **Permission of Implementation Subcommittee Chairman obtained**
- **Work effort to complete**
 - **Weekly conference calls**
 - **Sections to be written**
 - **Executive Summary update needed**
 - **Dependence on other documents being completed**
 - **Completion by 12/18/92**
- **Distribution of copies**
 - **To be mailed to all Implementation Subcommittee attendees during 1992**
 - **Will include copies of other documents currently being produced**

Comparative Analysis of System Implementation

- **IS/WP-2 developing document comparing implementation characteristics of systems**
 - **Responses to questions**
 - **PERT/Gantt charts, lists of assumptions**
 - **Analyses of ATV station block diagrams**
 - **Proponent presentations**
- **Characteristics of system-specific equipment**
 - **Master control/commercial insertion switchers**
 - **VTRs for commercial/promo insertion**
 - **ATV/NTSC multiplexers for STLs**
- **Results of survey of Professional Equipment Manufacturers**
 - **Time for equipment availability**
 - **Differences related to production formats**
 - **Differences related to compression methods**
 - **Television stations & cable headends**

Survey of Professional Equipment Manufacturers

- Professional equipment manufacturers surveyed once at beginning of process
 - Survey based solely on different production standards
 - Only information available at the time
 - Apparent that many answers were given to influence the outcome of the process
 - Results of the initial survey were discarded as inconclusive
- Professional equipment manufacturers being surveyed again
 - Far more known about the system proposals
 - Fewer options for underlying raster specifications
 - Opportunities for other forms of compression must be explored
 - IS/WP-2 to concentrate on timing of availability of equipment
 - Working in cooperation with SS/WP-3 handling the economic issues
- Prerequisite analysis of Proponent responses completed
 - To help identify nature of equipment that will be required
 - To permit differentiation of systems
 - Survey design based upon proponent responses
- Survey designed to target key equipment items
 - Manufacturers specific to key items surveyed with limits

Survey of Professional Equipment Manufacturers - *cont'd.*

- **Efforts to date**
 - 3 mailings sent to approx. 30 manufacturers since September
 - 10 manufacturers indicate intent to respond
 - Only 1 formal response so far
- **May not be in time for inclusion in IS/WP-2 output**
 - Impact is lack of verification of assumptions in PERT/Gantt charts
 - Affects charts for broadcast & related industry segments
 - Production/post production operations
 - Local stations & cable headends
 - Networks - broadcast & cable
 - Covers equipment needed for pass-through operation

Survey of Consumer Electronics Manufacturers

- **Conducted during spring, 1992**
- **Provided confirmation of IS/WP-2 output on availability of receivers**
 - **Work done by experts from consumer manufacturers**
 - **12 of 14 manufacturers responded**
 - **All respondents confirmed IS/WP-2 results**
 - **2½-3 years following FCC decision on system**
 - **Proponent manufacturer might have 6-9 month advantage**
- **Presented to Implementation Subcommittee previously (6/29/92)**
- **Document required to record results reported**
 - **Full explanation of work of IS/WP-2 industry experts**
 - **Survey methods and results**

Distributed Transmission Concept

- Idea discussed informally in industry for some time
 - Introduced formally to ACATS process by MIT submission to SS/WP-1
 - IS/WP-2 decided to look at implications for implementation (5/26/92)
 - Plan for examination (6/24/92)
 - Request to SS/WP-1 (8/4/92)
- Concept similar to "cellular" television
 - Multiple transmitters serving smaller areas than single transmitter
 - Lower power, lower height
 - Unlike true cellular systems, all on a single frequency/channel
- Potential solution to two problems
 - Short spacing of co-channel stations
 - Limitations in capacity at main transmitter facility
- Potential operational & technical obstacles examined
 - Cost of installation/operation/maintenance of multiple sites vs. single
 - Characteristics required in transmission system
 - Characteristics required in receiver
 - Possibility to burden all receivers for sake of a few situations

Distributed Transmission Concept - *cont'd.* (1)

- Two-step examination devised
 - Develop broadcaster system requirements to make technique practical
 - Small group assigned to develop needs/systems
 - Input sought from existing Local Area Groups
 - Obtain Proponent input on characteristics of their systems
- Two approaches identified
 - Large area, few transmitters
 - Small area, many transmitters
- Large area approach determined only plausible method for full coverage area
 - Spreadsheet analysis of costs
 - Capital nearly same as single transmitter
 - Operating costs much higher if dark fiber is required
- Small area approach could be okay for fill-ins

Distributed Transmission Concept - *cont'd.* (2)

- **Technical analysis requested of SS/WP-1 Analysis Task Force**
 - **IS/WP-2 identified operational parameters to be studied**
 - **Conference calls held**
 - **Analysis of transmission topology nearly complete**
- **Major impediment is adjacent channel interference**
 - **In zones surrounding transmitter sites**
 - **May prevent assignment of adjacent channels in same cities**
 - **Could preclude full accommodation, if implemented**
- **FCC awaiting outcome of study**
 - **Indicated in most recent Report & Order/Further NPRM**
 - **Appropriate review before release**

Capital Resources Availability

- **Input to IS/WP-2 from CPB participant**
 - **Implementation dependent upon capital availability**
 - **IS/WP-2 not taking account of this in its work**
- **Recognition of requirement by IS/WP-2**
 - **IS/WP-2 charter does not include financial studies**
 - **Efforts included in IS/WP-2 work to minimize costs**
 - **Joint development of low cost approaches with SS/WP-3**
- **Other groups assigned to consider financial matters**
 - **SS/WP-3 on Economic Analysis**
 - **PS/WP-5 on Economic Factors and Market Penetration**
- **Capital availability not included in ACATS output**

Update on Local Area Groups

- **Local Area Groups originally established in five major cities**
- **Two-fold purpose**
 - **Gain implementation information for IS/WP-2 from potential problem cities**
 - **Instigate head start for broadcasters in some of the major markets**
- **Local Area Groups needed more information to proceed**
- **Most of needed information has been provided**
 - **Local Area Groups asked to look at their situations again and report**
 - **Some have met already, others have meetings planned**
- **Decision to add more cities**
 - **Coordinated with Broadcaster Caucus — no conflict**
 - **Combination of top & mid markets**
- **Cities now total 15**
- **Seeking mechanism to follow up after end of ACATS process**

Schedule of Remaining IS/WP-2 Activities

- **Items to be completed**

- **Final report**
- **Comparative analysis of system implementation**
- **Survey of professional equipment manufacturers & resulting report**
- **Report on receiver availability & survey of consumer electronics manufacturers**
- **Report on distributed transmission**

- **Conference calls remaining**

- **Wednesday, 11/25/92**
- **Wednesday, 12/2/92**
- **Wednesday, 12/9/92**

- **Final meeting**

- **Two-day meeting - "until completion"**
- **Wednesday, 12/16/92, Thursday, 12/17/92**